

THE
PSYCHOLOGICAL BULLETIN

GENERAL REVIEWS AND SUMMARIES

FEEBLE-MINDEDNESS

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The extensive use of the Binet-Simon tests of intelligence has caused a renewed interest in the study of the feeble-minded. It has opened some quite new fields of inquiry, and it has brought new points of view into the discussion of old questions. Feeble-mindedness is now quite commonly defined in terms of mental age, and its different grades classified on the same basis. Rogers (23) points out this change of basis of classification. Cornell (7) and Goddard, as quoted by Cornell, have accepted twelve years as the upper limit in mental age for feeble-mindedness. But since children may be feeble-minded with any mental age less than twelve and yet be as nearly normal as the adult feeble-minded with a mental age of twelve, the relation of the mental age to the chronological age must evidently be taken into account. Gifford and Goddard (9) classify children aged nine and a half to thirteen and a half years as "backward" when less than four years behind in mental age, and classify children aged fourteen to seventeen years as feeble-minded when four or more years behind in mental age. Morrow and Bridgman (21) classify a case as feeble-minded if the mental age is less than twelve and the difference between mental and chronological ages more than three years, apparently independently of how much the chronological age is above twelve. Otis (22) regarded girls aged ten to twenty years as mentally defective if they fell below ten years mentally, classifying them as morons if the mental age was between ten and eleven. Stern

(24), Bobertag (2), Chotzen (5) and the present writer (16) have pointed out that a certain number of years' difference between age and mental age represents a decreasing degree of mental deficiency with increase in age throughout the whole range of grades of intelligence, and have suggested using the fraction obtained by dividing the mental age by the age as a better criterion of grade of intelligence. Stern, who originated this plan and termed it the "Intelligence Quotient," and also Bobertag point out several objections to it and regard it as still falling short of entire accuracy. They suggest, however, that a case might perhaps be classified as feeble-minded if the intelligence quotient falls below .80.

This definition of feeble-mindedness in terms of mental age in relation to age, however, is not adhered to strictly, even by those who accept this method of measuring intelligence. With most students of the subject, as well as in law, feeble-mindedness has come to mean an incurable condition. This meaning of the term is retained. If the causes of the mental retardation are removable and the mental condition can be restored to normal, the case is not regarded as one of feeble-mindedness. Dullness, backwardness, mental retardation, exceptional, are some of the terms given to this latter class. Huey (15), Holmes (14), and Cornell are among those who make this distinction. On the other hand, Witmer (27) defines feeble-mindedness on the basis of social considerations alone, without reference to cause or degree of mental deficiency; the feeble-minded is the socially unfit.

Turning to the attempts at a more definite description of the general nature of feeble-mindedness, we find Huey regarding it as not alone a defect of intelligence in any grade, and in the borderline grades in adolescence as more an abnormality of the emotions, instincts and their control and direction than an abnormality of intelligence. At this upper margin it blends into the psychoneuroses. He outlines a number of functions which he thinks are arrested here, rather than intelligence in the technical sense. Among such cases there may be true feeble-mindedness with little or no mental retardation as measured by the Binet-Simon tests. Rogers (24) sounds a similar note. In distinguishing "children with mental defects" from "mentally defective children," using the latter expression as synonymous with the term feeble-minded, Witmer holds that we have in the latter only an accumulation of mental defects. Every normal child is apt to have one or several mental defects, such as sensory defect, defect in some class of

imagery, tendency to lie or steal, and so on. The undue multiplication and exaggeration of these constitutes mental deficiency or feeble-mindedness. A similar point of view is implied in Block's (1) attempt to group the Binet-Simon tests according to the special mental functions they test and thereby determine in which mental functions the feeble-minded are especially behindhand, when the responses of feeble-minded and normals are compared on any group of these tests that is supposed to test some one mental function particularly. The study by Lapie (18), who uses a number of special tests besides some from the Binet-Simon system, aims at the same thing. The view held by Hart and Spearman (13) in regard to the existence and nature of a factor termed general ability seems in direct opposition to this. They argue in favor of the existence of such a factor, or general intelligence, as opposed to the view that the mind is only a group of functions or "faculties." Their argument is based on the fact that they find a positive and high correlation for different groups of mental tests, which they explain can result only if the score in each of the individual tests is determined in part by one and the same factor, which they call general ability. They hold that the success of the Binet-Simon tests is due to the recognition of the correctness of this view. Undoubtedly opponents would not regard their interpretation of the high positive correlations as the only possible one.

The question as to the course and rate of mental development in feeble-mindedness has been raised. From three successive annual testings with the Binet-Simon tests of the 346 inmates of the Vineland, New Jersey, Training School for Feeble-minded Goddard (10) found that 67 per cent. varied less than three fifths of a year in mental age during this period of two years; 28 per cent. gained three fifths of a year or more; 5 per cent. lost three fifths of a year or more. From this he concludes that the vast majority of the feeble-minded do not improve in intellectual level, and that if there is any improvement it seems to be between the mental ages of three to nine, inclusive. Goddard, however, does not state in sufficient detail what the frequency of occurrence of the different grades of intelligence and of the different chronological ages of these inmates is for us to judge the validity of his conclusion. The tests used do not measure progress adequately for mental ages below three or above ten years, because of the absence of tests for the lower and higher mental ages. Again, if the majority of the inmates were over twelve years chronologically,

as they probably were, we would hardly expect any mental progress for this majority, according to assumptions of the tests. Several authors hold a view in opposition to Goddard's conclusion. Stern (25) assumes that the mental age of the feeble-minded increases with age, but at a slower rate than it does with normals. But he also thinks that the development of intelligence stops entirely with the feeble-minded earlier than it does with normals. Bober-tag, in discussing the intelligence quotient and his results with the Binet-Simon tests, regards it as obvious that the intelligence of the feeble-minded increases with age, but at a slower rate than of normals. He suggests that the rate of mental development of the normal child is a constantly decreasing rate from birth to mental maturity, and that that of the feeble-minded follows a similar course, only it is less year for year than with normals. Chotzen's results in examining feeble-minded children with the Binet-Simon tests indicate this. Block (1), after testing 71 children of the *Hilfsschule* with the Binet-Simon tests and comparing the results with results from normals comes to the same conclusion that Stern arrived at. Boehne (3) found the children of the special classes of Rochester, N. Y., public schools increasing in mental age, as determined by the Binet-Simon tests. The present writer (17) in testing 1,300 feeble-minded of the Minnesota School for Feeble-Minded found on dividing the cases into a series of chronological age groups from younger to older that the average mental age for these successive groups increased regularly from younger to older up to the chronological age of about fifteen, after which the mental age remained constant. Elsewhere (16) I have defended the view that it would be feasible to use the intelligence quotient as found at any time for a given case as an index of the rate at which the case in question has and will be developing mentally.

The frequency of occurrence of feeble-mindedness with different classes of people has received a renewed interest through the application of the Binet-Simon tests, with the general result that previous estimates have been many times exceeded. Thus Goddard (11) finds two per cent. of the school population feeble-minded. But of 286 public school children aged six to eleven years, inclusive, Otis (22) found only three nine-year-olds, four ten-year-olds, and nine eleven-year-olds with a mental retardation of two years, and one ten-year-old with a mental retardation of three years. Dr. Otis makes no comment on what is regarded as feeble-minded. Dr. Goddard's high percentage may be due to his interpretation which

regards a seventeen-year-old child, for example, as feeble-minded if his mental age as found by the tests does not exceed thirteen years.

Morrow and Bridgman (21) examined 60 inmates of the State Training School for Girls at Geneva, Ill., with the Binet-Simon tests. They report only 6 as normal, 14 retarded one to three years, 11 retarded four to five years, and 29 retarded six to thirteen years. In a later study Bridgman (4) tested 118 consecutive cases of the same institution and reports 5 per cent. normal, 6 per cent. backward, and 89 per cent. feeble-minded. Goddard (12) found thirty-four superintendents of reformatories and industrial schools estimating on the average 14.5 per cent. of their 13,188 inmates as feeble-minded. Goddard and Gifford testing 100 juvenile court cases chosen at random from among cases serious enough to be sent to a detention home found 34 backward, and 66 feeble-minded, apparently none being "normal." Among the normal children of the Brussels schools Ley (19) found 14.4 per cent. with some moral deficiency, as compared with 96.3 per cent. with some moral deficiency among the mentally retarded children of the special classes. He includes much less grave moral offenses than those of the juvenile court cases.

This high percentage of feeble-mindedness with these different classes of children is, however, subject to the consideration of what one regards as feeble-minded on the basis of the mental ages obtained. A little further analysis of the results in some instances shows at once that the apparently very high percentage of feeble-mindedness is due to gross misinterpretation. Thus, as already noted, Morrow and Bridgman call a case feeble-minded if less than twelve years mentally and with a mental retardation of more than three years. They classify a case as normal only if his mental age is equal to or greater than his chronological age. Likewise, they regard a child over fifteen years of age as the number of years retarded that his chronological age exceeds his mental age as given by the tests, although there are no tests for the ages of thirteen and fourteen and none beyond fifteen except one group of five "adult" tests. Considering the absence of tests for these higher ages together with the rule for counting up the mental age from the individual tests passed and not passed, any child whose mental age is really ten years or more will have to measure short of his real mental age because he gets no opportunity to pass extra tests for the ages of thirteen, fourteen, sixteen and beyond. Fifty-eight of

their sixty cases were over twelve years old chronologically; twenty-six were fifteen or over. These studies on the frequency of feeble-mindedness in their erroneous conclusions have confused rather than added to our knowledge of this problem.

Several studies aiming to determine the special characteristics of some individual mental function or activity of the feeble-minded are noteworthy. Mead (20) compared the age at which feeble-minded begin to walk and talk with this age in normal children. Beginning to walk is defined as taking a step unassisted, and talking as using a word intelligently, indicating the association of an idea with its object. The average age at which 25 normal boys began to walk was 14.28 months, with an A.D. of 1.64, and a P.E. of .97. For 25 normal girls these figures were: average age, 13.48; A.D., 1.28; and P.E. 1.12. For 84 boys chosen from the "schoolable" cases of the Indiana School for Feeble-Minded the average age for beginning walking was 25.7 months, with an A.D. of 9.36 and a P.E. of 8.16. For 60 feeble-minded girls similarly chosen these figures were: average age, 24.24, with an A.D. of 9.84, and a P.E. of 6.96. The results for the age at which these children began to talk were: for normal boys, average age 15.76 months, with an A.D. of 3.2, and a P.E. of 2.75. The normal girls began to talk at an average age of 14.88 months, with an A.D. of 2.76, and a P.E. 2.68. 56 feeble-minded boys began to talk at an average age of 39.36 months, with an A.D. of 16.44, and a P.E. of 13.56. For 36 feeble-minded girls these figures were: average age, 37.32 months; A.D. 17.04; and P.E. 12.00. Mead notes the educational value of the functions of walking and talking during the early months of the child's life, which by their later appearance in feeble-mindedness thus produce their influence on mental development.

Town (26) in studying the language development of inmates of the Illinois School for Feeble-Minded found five levels of language development with idiots, as follows: (1) understanding of gestures; (2) imitation of gestures; (3) voluntary gestures; (4) understanding of words heard; (5) sounds and attempts at articulation. For 45 cases of the imbecile grade 320 words were used, each word being suggested to a child by the use of pictures and questions. Record was also kept of all the different words used by the child during the test. The average percentage of the 320 words used by the children with mental ages of 3, 4, 5, and 6 years were 23, 41, 69, and 86, respectively. The average total number of words used were 112, 188, 315, and 363, respectively, for these mental ages.

Eastman and Rosanoff (8), using the same standardized method of testing association formerly employed by Kent and Rosanoff with the insane, found certain characteristic associational tendencies with 263 "backward" children of the public schools and several training schools. These children were all retarded in school work, the majority were also delinquent, but not all were regarded as feeble-minded. The associational characteristics of the feeble-minded as thus determined were found to be (1) failure of reaction, when no response is given to the stimulus word; (2) non-specific reaction, "words which are so widely applicable as to serve as more or less appropriate reactions to almost any of the stimulus words"; (3) individual reactions, reactions not belonging to a small group of common reactions usually given by normals. The authors regard this association test as an aid in the diagnosis of feeble-mindedness.

Clark and Atwood (6) attempt to distinguish "habit-movement" from tics by defining the former as "the frequent or constant repetition of uncalled-for and exaggerated movements which are devoid of convulsive element, but from which the patient seems to derive pleasure or satisfaction," and the tic as "that type of spasmodic movement occurring in varying degrees of excursion, intensity and rhythm after the purpose of such movements has disappeared." To the authors tics seem to develop on a "neuropathic diathesis," while the habit-movements develop from a "psychopathic soil, especially on the basis of imbecility and idiocy." To the present writer the distinction made is not entirely clear. They studied 600 idiots and imbeciles for these movements, and found that all habit-movements bear some relation to sexual libido. They are all regarded as phases of the neurotic child habits, which in the normal child are inhibited through increasing mental development. It is suggested that these movements with idiots and imbeciles are merely a continuance of the neurotic infantile habits, enhanced by the lack of mental development. Some additional observations are given to support this Freudian interpretation.

Block (1) grouped the Binet-Simon tests into groups according to the mental functions he thought they tested specially, and having examined feeble-minded and normal children with the tests, attempted to discover in what mental functions the feeble-minded specially lack development as compared with other mental functions. His analysis, however, as to which mental functions are chiefly tested with the different tests is so largely merely fanciful

that the details of his results need not be quoted. He found that the feeble-minded failed more in the following tests than they did in others as compared with normal children. Repetition of five numerals; recognition of coins; arrangement of five weights in order of weight; recall of story told; copying written words; writing from dictation; naming days of the week; naming months of the year; giving date; comparing two objects from memory; game of patience; distinction between forenoon and afternoon; questions of comprehension.

A comparison of a group of pedagogically retarded with a group of pedagogically advanced children, twenty-four in all, by Lapie (18) is subject to the same criticism. His retarded cases were retarded one to two or more years, and the advanced were advanced one to almost two years. Tests on the initial threshold for noise, initial space threshold as determined by the compasses, a number of different memory tests, do not show any special difference between the two classes of children. Tests with the algometer make the retarded apparently the more sensitive to pain. In judging the relative length of two lines the advanced excelled. In giving the free associations to an abstract or concrete word there was no notable difference in the total number of words, but the retarded gave more words that were not related to the stimulus word, and their series were in other ways more disconnected. In giving as many words as possible in three minutes, in using three given words in one sentence, the advanced excelled considerably. The retarded excelled in the number of a's and r's crossed out in a given text, but the advanced worked more regularly and continuously. Suggestibility, tested with a bottle of pure water placed at some distance and the child being told it contained a strong odor, shows no important difference, except that the retarded were much less hesitant in their responses. In a test with Toulouse and Pieron's pictures with absurdities, for example a picture in which the wind blows smoke in one direction and trees in another, the advanced gave more frequent correct responses. The Binet-Simon test with nonsense statements, on the other hand, gave no significant difference. The tests of crossing out the a's and r's in a given text, giving as many words as possible in three minutes, using three given words in one sentence, detecting absurdity in pictures, and in the Binet-Simon nonsense statements, are all classed as tests of attention. He concludes that the difference between the retarded and the advanced is one of degree and not of

kind. The different mental functions are all present in the retarded, but are more poorly developed.

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EXPERIMENTAL PSYCHOPATHOLOGY

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Among the studies in psychopathology involving general experimental series, Rowland (17) contributes a brief, condensed note on her observations with normal subjects and delinquent girls. In simple reaction time as measured by Vernier chronoscope, more of these subjects gave slow times than would be expected in normal individuals. Another test was of formal memory, noting the number of repetitions necessary for learning by heart a series of nonsense syllables, with both visual and auditory presentation. Of the 35 subjects, 17 failed to memorize the auditory list in 25 trials, 11 failed in the visual test after trial, 7 without trial. 19 failed to reach the standard of normality in remembering what had been seen on cards exposed for three seconds. Burnett's test of distraction (simple maze and maze with distracting pictures) gave a performance regarded as subnormal in 14 cases. 16 failed to reach the normal standard in counting the number of times a letter occurred in a given passage. There were also three simple tests of suggestibility. Failure in six of the nine tests was deemed a subnormal record, and these records corresponded well with the official estimate of the capacities of the subjects. A comparative table at the close gives the number of cases in which the tests were "passed" by the Bedford group, 35 Mt. Holyoke students, and 35 Amherst students. The difference in favor of the college students is marked throughout, least in simple reaction time, and greatest in the auditory memory and "attention" tests.

E. K. Strong (19) adds another to the much needed researches

which attempt to follow manic-depressive conditions through changes in the depth or character of the psychosis. The tests employed were the tapping test, discrimination of weights, a cancellation test, a distraction test (using picture cards with a number attached to a corner of each, to be sorted according to the numbers), and the free association experiment. There were 11 subjects altogether, who were tested as changes in the condition indicated. Such studies lend themselves little to summary, but the author says, generalizing, that in the tapping test the opposite of fatigue is found within series as an indicator of retardation, and lack of warming up as indicating depression. In manic states there appears to be increased rate, and it warms up more. With depressed states, poor performances in the discrimination of weights are sometimes associated with loss of feeling in the body. The cancellation and distraction tests were slower in both the manic and depressed states, though probably not for the same reasons. The association experiment showed no characteristic abnormality in the depressions; manic cases showed mainly a large number of "individual reactions," and long reaction times (distractibility?). One case, of a more dementia præcox type among the subjects, reflected a lack of correspondence with the other subjects in the experimental results, as in the distraction and association tests. Besides the detailed analysis of these findings, the paper contains very useful criticisms of the tests made use of, and suggestions for their future improvement.

Boring (3) contributes what must have been a very painstaking endeavor to apply the introspective method in a scientific way to the study of mental diseases, choosing dementia præcox cases for this purpose, the material being furnished by the introspections from the eight subjects concerned in a series of maze experiments. A standard of normality for judging these introspective results is given in a study of adults trained in introspection, and of untrained boys. Among the special conclusions are the greater suggestibility of the pathological subjects than the trained normal observers, the absence of any indication of intentional misrepresentation in the reports, and the great individual variation between the patients in the factors indicating the reliability of the reports (as analyzed quantitatively in the body of the paper). "The reports are, on the whole, of about that degree of reliability that is found in reports made by untrained observers with little education and poor command of language, and appear

to differ from these reports in no characteristic way other than in the introduction of irrelevant material."

The study of Hassman and Zingerle (7) endeavors to show the value for psychodiagnostic purposes of the systematic examination of the quasi-artistic productions in such psychoses as dementia præcox, by a special case of which their material is furnished. "The patient is able to preserve single ideas, to elaborate them in drawing or painting, and to clothe them with all their proper attributes; but he does not elaborate them in a reasonable connection in the sense of a normal mental process; and is indeed incapable of bringing them into purely objective, formal, connections." The material is arranged according as the associations studied are between pictures and verbal expressions, word to picture, picture to picture, and word to word. Various dementia præcox mechanisms are brought out under these headings, and there are suggested here some promising variants of association experiments; though the most interesting portion of the paper is that in which several drawings are reproduced with the patient's own interpretation of them discussed in detail. The treatment of the data is thoroughly psychoanalytic.

Hirt's (8) extensive contribution is the first on the psychology of the writing movements that has appeared from Kraepelin's laboratory for some time. It is a compendious overhauling of the subject with experiments under a large variety of conditions, and the point of view is a broad one. The *Schriftwage* is used, adapted to continuous records. The most stress seems to be laid on the distribution of pressure within the writing movement, which the author terms the "writing accent," the observation of this factor appears to the author the most promising for future work, though it does not play this part in the study now reported. The present concern is essentially with the elaboration of such functions of the experiment as are developed by the previous investigators of Kraepelin's laboratory, the *Schreibdruck*, the *Schreibweg*, the *Schreibgeschwindigkeit* and *Schreibdauer*. The results on these different points are systematically reviewed at the end of the chapters dealing with them. It is frankly stated that genuine correlations with personality are not established in this study, but that it gives encouragement to further work in this direction.

An intensive study of writing movements in a manic depressive case is contributed by Lomer (14), dispensing with the technical refinements of the Kraepelinian methods, and more from the

standpoint of analytical graphology; allusions to different "faculties" of the personality are frequent through the article. There is no lack of quantitative measurements however. Every clinician has at least vaguely in mind some characteristics of the manic handwriting, usually exaggerated above what appears here, in the samples reproduced. He notes, not surprisingly, an increased and careless speed, a larger manuscript more characterized by pressures, a tendency to slur the ends of words, ascending lines and other symptoms, several of which are also frequently observed in general paralysis.

Lomer (15) also publishes a longer paper from the same viewpoint on the graphological symptoms of dementia and feeble-mindedness. He recognizes the suspicions under which the method labors, and brings to it the enthusiasm of the propagandist, though not neglecting the work done from angles of greater experimental precision. The present material (from 12 cases) is more of the observational order, and is presented less quantitatively than in the preceding paper. This is rather unfortunate in view of the continual and praiseworthy endeavor to bring the handwriting phenomena into correlation with the personal traits of the individual. The subjective element is so great that it obstructs the acceptance of what might be perfectly valid; and even though the correlations claimed are real, there is nothing by which to estimate the degree of a handwriting character by which a corresponding personal trait is measured.

Bickel (2) contributes the only reaction time study in this series, and his problem is one of general psychology, though carried out largely with pathological material. The word "*Konstellation*" is used in the sense of Ziehen, not of the Zurich workers. Hipp chronoscope with lip and telegraph keys were employed. The subjects received stimuli for reaction with right and left hand, but were not to react unless they had first heard a prearranged signal. Premature reactions and failures of attention were eliminated. In respect to the alternation and repetition of stimulus the author says that in all his subjects (5 in number) it is the rule that in the repetition of stimulus the reaction is longer, for changed stimulus it is shorter. Latent memory picture operating in the sense of "constellation" need not therefore heighten the effect of similar presentations, but may that of dissimilar ones. (Cf. other work, on inhibition.) There are more false reactions to repeated stimuli. A stimulus if unreacted to lengthens the following reac-

tion if it is similar and shortens it if it is dissimilar; it has however the opposite effect on the mean variation. Results analogous to these appear with the method of right and wrong cases.

Reviewing the literature of pupillometry with special reference to Bumke's observations with dementia præcox, Runge (18) presents results of his observations of about 200 psychiatric, neurological and normal cases, using daylight, and a modification of the Hess-Bumke pupillometer. His dementia præcox group seem to have wider pupils at 9 candle-meters, and narrower ones in daylight, a result that is in possible accord with previous work. There was frequent departure from the round form, but this not characteristically in dementia præcox, nor were excentric pupils significantly distributed. A large percentage of catatonics showed abnormal restlessness of the eyeball. A pathological diminution of the psychic reflexes appeared in about 51 per cent. of the dementia præcox group, least frequently in the *paranoides* cases; it is not an early symptom. There follows a description of the less frequent anomalies of this nature in the other non-organic psychoses, then in general paralysis, tabes, and idiocy, where they are found rather often. The Bumke sign is important in differentiating from a manic-depressive psychosis. It appears more frequently at 9 candle-meters than by daylight, and the paper closes with a discussion of this finding and its application.

Further material on this same topic is given by Reichmann (16), starting from three cardinal pupillary anomalies in dementia præcox, the loss of psychic reflexes (Bumke), a catatonic failure of pupillary reaction (Westphal), and an induced failure of reaction after iliac pressure (E. Meyer). Pupillary disturbances are again noted most frequently in catatonic cases, and least in the *paranoides* group. Some disturbance was found in nearly 70 per cent. of all cases (215). The phenomena reported by Westphal and E. Meyer were not commonly represented. Convergence reaction was preserved in 212 of the 215 cases. As between hysteria and dementia præcox, a difference in the effect of ovarian pressure appeared in that in hysteria it was not associated with diminished light reaction. This latter was also the case in normal individuals in whom the first reaction to ovarian pressure was present. In interpretation of anomalies of light reaction, if not of the pupillary reactions in general, the author looks with favor upon a vasomotor hypothesis advanced by Westphal.

Wiersma (20) objects to the plethysmograph and to the usual

sphygmographic methods on account of the irrelevant mental states that they doubtless arouse in the subject. He describes a convenient rubber bulb sphygmograph, and also uses photographic registration in part. With this technique he presents a quantitative study of various features in respiratory and pulse rhythms. Tables are given illustrating relationships of pulse and respiration rate in different individuals and intensively for the same individual, under rest, sleep, as well as various mental and motor activities and sensory stimulations. A characteristic difference between anxious and retarded melancholias is shown, and results with idiots, imbeciles, and other pathological conditions are given for comparison with abolition or other anomaly of consciousness. The general endeavor seems to be to establish a correlation between "respiratory arrhythmias" and different *niveaux* of consciousness, but the paper is condensed to obscurity.

Küppers' (11) paper reporting plethysmographic work with dementia præcox cases begins with a critical review of the previous studies, including the names of Brahn, Gent, Zoneff and Meumann, Lombard and Pillsbury, Shepard, and others, psychological rather than technical, and on the whole favorable to the method. In his experiments, respiration was recorded with a pneumograph of ordinary pattern. To eliminate voluntary movements an ear plethysmograph was attempted, unsuccessfully, because of the difficulty of keeping it air-tight. Marey tambours (*Kapseln*) appear to have been used for recording, not piston recorders. Various sensory and intellectual stimuli were employed to bring about the reactions to be observed. Control experiments with normal individuals were made, but unfortunately not carried out with the completeness of the others. As he formulates his results,

(1) In a considerable percentage of dementia præcox cases (8 out of 14), a symptom was demonstrated by the plethysmograph which may be termed *reaktive Volumstarre*, and which manifests itself characteristically in the volume curve of the arm. (2) The prerequisite of this in the central nervous system appears to be a continuous inhibition of the vasomotor centers. (3) The underlying pathological central process shows in its bodily manifestations far-reaching correspondence with a state of normal mental life, that of expectant attention (*gespannte Erwartung*).

To some criticisms of his work in this paper, Leschke (13) makes a brief reply, explanatory rather than controversial.

Another study of plethysmographic phenomena under patho-

logical conditions is contributed by Breiger (4), the material being neurasthenic in character, 9 men subjects in all, the starting point being from the observations of the curve under mental or physical activity and other alterations under exhaustion, as noted especially by Weber. The ear plethysmograph was tried, and discarded, as by Küppers, though for a different reason, the subjects finding it too disagreeable. The results deal particularly with the arm plethysmograph, in connection with pneumographic records. The author states that in certain cases he finds the reversal phenomena described by Weber, and this when at the time of the experiment the patients' feeling of well-being was diminished, for either psychic or physical reasons, as fatigue or headache. In other cases this was not found, and its absence is interpreted as a disturbance of the affective balance; "conditions of depression or tension may hinder the appearance of vasomotor reflexes."

Gregor and Gorn (5) contribute an extensive study of the psychogalvanic reflex in various mental disorders. In regard to the differential behavior of the reflex in the clinical forms investigated, they conclude that in catatonic conditions (stuporous) there is a diminished reaction in conformity with the general motor phenomena. Normal reactions, however, appeared in transitory, psychogenic stupors occurring in the course of catatonia. Terminal hebephrenics showed a loss of reaction. (It is not clear in just what sense these diagnostic terms are used.) The extent of the reflex is normal in constitutional inferiority. It appeared much lessened in mild conditions of excitement of hebephrenic or general paralytic origin. It is reduced in the depressions and increases with recovery, seeming also to distinguish manic from hebephrenic or catatonic excitements. Gregor is a tried worker in experimental psychopathology, but it would be easier to have immediate confidence in these and other findings of the study if the observations bore more evidence of rigid control. The sensibility of the instrument appears to have been much lower than the phenomena, especially those of body currents, are ordinarily investigated with. As the string galvanometer was used, more attention should have been paid to the reaction times.

Albrecht (1) complains of the lack of attention to physiological factors in the studies of the psychogalvanic reflex, which is justified in the literature that he mentions, but scarcely applies to all of it. The string galvanometer was used, with zinc sulphate electrodes, and *mirabile dictu*, he states quantitatively their resistance

and difference in potential. He rather favors taking the reflex from asymmetrical portions of the same side of the body. Higher intensities of current appear on the preferred side. He seems to have been the first to use simultaneously two galvanometers for the separate measurement of resistance and E.M.F. He does not accept the sweat-gland interpretation of the phenomena. The original conception of the psychogalvanic reflex as a "resistance" phenomenon is singularly appropriate when one contemplates the difficulty with which people learn about it. The author still deems it necessary to emphasize that it is a product of both change in resistance and body potential.

A series of association experiments with epileptics is published by Hahn (6). He lays stress on the importance with this group of not giving the stimulus words in any classified order. The results are but crudely worked out, though a special interest attaches to them in that they follow the same cases through many years. There are seven cases, but while each has a full individual report, there is no attempt to correlate the data in any way.

Kutzinski (12) presents, after a critical review of the literature, a study of how the association type is affected by experimentally induced "complexes," that is, so far as in the psychoanalytic sense a complex can be said to be induced by learning the contents of a brief story. It has an obvious relation to the work of *Tatbestandsdiagnostik*. A large variety of clinical groups are represented among the subjects. The determination of whether or not a response is here *Komplexbetont* is naturally more or less dependent on introspection, so that there was a special effort to avoid suggestion in questioning about this. As the more significant conclusions are rendered,

1. The complex reactions are but sparsely represented, and with a monotonous character.
2. The time-measurement is without special significance for ordering the reactions according to the present problem.
3. There is an interdependence between *Ausfallerscheinungen* and complex reactions, which confirm, but also elaborate the viewpoints developed by Jung and Riklin. Not only emotional complexes, but novel, recent ones, influence the number of mistakes.
4. The effect of the complex may manifest itself now in levelling, now in making objective associations internal. Which of the two factors preponderates, seems to depend not on the individual, but upon the type of disorder.

5. The predicate reactions, in the sense of Jung and Riklin, were not observed to increase under immediate influence of the complex. On the other hand, their number does increase in affective conditions.

6. In normal individuals, the association with the story and the awareness of it mostly run parallel; in these experiments the disproportionately great number of unconscious reactions is noteworthy.

A striking paper is the experimental investigation by Wiersma (21) with reference to retrograde amnesia. He formulates this phenomenon as the temporary or permanent loss of experiences immediately preceding the psychic or physical shock. Also it is observed that when the lost memories are recovered, the remotest ones return first. This fact gives the experimental *Anhaltspunkt*. Given a weak stimulus followed by a strong one, how is the former influenced by its proximity to the latter? Light stimulation was used, a falling screen exposing a small aperture and a large 150σ later. All of twelve subjects showed a greater threshold of stimulation when the strong stimulus followed, the mean inhibition for each varying from 54 per cent. to 243 per cent. As the 150σ interval was increased, the inhibitive effect diminished, being almost *nil* at three seconds. In the same way it was found that a threshold stimulus had to be exposed from 28 to 43 per cent. longer when strong stimulus followed than when it did not. Finally, different geometrical forms were exposed instead of threshold stimuli. The phenomena parallel those of a "psychogenic" retrograde amnesia. Their interpretation is given in terms of the theory of "central" and "peripheral" consciousness put forward by Heymans. A natural suggestion for further experiments would seem to be to use different sorts of primary and secondary stimuli, and if possible to avoid the difficulties of fatigue and adaptation incidental to light stimulus.

The study by Horwitz (9) is a continuation of the work carried on by Schneider, Busch, and Wolfskehl, and is most closely related to that of Mikulski. The exposure is of 9 letters, with the pendulum tachistoscope of Kramer, rather longer than usual, 130σ, the subject releasing the pendulum, and also noting the results himself. Introspective notes were made with special reference to the feeling of certainty and to particular associative cues; some of these *Merkworte* which are cited would be capable of psychoanalytic elaboration. Word exposures were similarly made with a new tachisto-

scope of Weiler's design, apparently embodying a principle applied some years ago by Dodge. Supplementary experiments were made with Ranschburg's technique. The total number of pathological subjects was 32. The results are discussed in relation to the previous work. The unfavorable effect of distraction is measured. The feeling of certainty is said to be nearly unaffected by either distraction or length of interval; distraction does, however, tend to make it less reliable. A peculiar finding is that in the distraction experiments with the hysterical subjects, the feeling of certainty seems to increase with the difficulty of the task, nor does its reliability suffer.

Isserlin (10) appends five or six pages in review of this study, discussing its relation to the more concrete, clinical issues of the problem; he appears to think that for giving a working insight into the deeper mechanisms of the disorders, the methods still leave much to be desired.

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HALLUCINATIONS AND DELUSIONS

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The literature upon these topics during the past year embraces experimental, speculative and imaginative studies, some leaning toward the philosophical, some toward the anatomical and chemical and certain ones clothed in the atmosphere of the bizarre. It is extremely interesting to note the large number of points of view from which the above problems are being attacked, the high hopes of the investigators, and the widespread applications which are being attempted, extending from the reform of medical practice to the establishment of a proper psychological basis for the problems of literature and philology.

Most important, perhaps, are the case studies. Here we find occasional infiltrations of Freudian influence. Karpas (6) analyzes a case of psychopathic personality showing few stigmata of degeneration and it was found to be in correspondence with similar cases described by Freud. The mechanism of the patient's homosexuality is as follows: She fixes her libido on her father; she then identifies herself with men; later she took herself as a sexual object. Psychosexual anæsthesia is explained as a defence mechanism against strong tendencies toward sadism and inversion. Heilbrunner (5) depicts a case of a small farmer, aged 34, afflicted with

chronic or constitutional day-dreaming. This condition had continued through approximately 20 years. Beginning, as a child, to "build castles in the air," he finally spent a large amount of time in the practice, so much so that his brothers, associated with him in running the farm, believed he was shirking. He is however classed by the author as psychopathic—afflicted with "lability of personality"—on the following grounds: persistent phantasies, lack of affective tone in viewing certain repellent scenes in the phantasy, and his activity (in the phantasy) of avoiding himself. As against Bonhoeffer's similar case, the author found no loss of memory or ability to reproduce past experiences. The attitude had finally become normal for the patient. Although the evidence bears some relation to the Ganser symptom and to hysterical phenomena, it is not wholly in accord with them. It is a case of ingrained habit (*Gewöhnungsvorgänge*). Prince (12) analyzes a case of phobia for "church steeples and towers" which proved to be the visible symbol of the "ringing of bells," but without conscious association. Behind this lies a childhood tragedy, and self-reproach on religious grounds growing into a lifelong self-reproach, the psychological object of the phobia. Bunnemann (2) discusses pain of psychic origin, whether sensory or ideal—as in fear, anxiety, grief—and finds from a number of cases that it enters consciousness through association when the affective condition is heightened. The projection of the pain may be beyond the sense field and this is due to the fact that the projection field for all mental processes is ideal and only indirectly dependent upon stimuli. The argument for the teleology of pain receives a theoretical discussion, and as against Jodl, the author holds that pain is an indication that a recognized, envisaged, subjectively evaluated harm is working upon the organism. No reference is made to the work of Henry Head upon "referred pain."

Southard (14) reviewed 1,000 cases which came to autopsy at the Danvers (Mass.) State Hospital to determine whether "any delusions of a severe, essentially somatic type exist in patients having a normal sensorium." Of these 1,000, eight only were found in which the somatic delusion existed in pure form. An intensive examination of these cases is presented in this article, and the evidence for and against a somatogenic origin of the delusions is carefully weighed. The conclusions are limited to the cases examined, in which the author finds practically identical localization of the source of the delusion in a somatic lesion. Among these

1,000 cases Southard and Stearns (15) found 31 which showed evidence of allopsychic delusions and which also were free from gross brain lesions. Of these 31 however, 8 were excluded as having demonstrably morbid personality, 3 as closely approximating the imbecile type, and 4 on account of temperamental faults,—leaving a residue of 13 true allopsychic cases. Among these, the environmental factors were not sufficiently proven in 8, leaving 6 in which the environment is regarded as having been an influential factor in producing the delusion. The possible influence of personal factors is admitted, and the presence of cardiac and renal diseases is indicated. No general conclusion is drawn as to the extent to which the environment is responsible for the delusions. Southard and Tepper (16) tried to discover whether the paretic brain tends to falsify normal sensory returns from the soma. It is found that 57 per cent. of the paretic cases are possessed of delusions classed as autopsychic. 23 out of 37 cases exhibit also lesions in the frontal lobes. The results of the study are regarded as lending some color to the hypothesis that autopsychic delusions must be correlated with frontal lobe lesions.

Knauer and Maloney (7) give credit to Kraepelin for the first experimental investigations in which psychoses were induced by drugs to secure mental phenomena comparable to those of the insane. The authors made 23 tests by injection of sulphate of mescaline into the forearm. Consciousness remained unclouded, limited in a fashion similar to hypnosis, but differed from hypnosis in that while attention is narrowed “to one subject at a time, it successively passes from one subject to another.” The effect of mescaline is compared to that of alcoholic intoxication; with visual hallucinations; with normal visual images and with central after-images. On the basis of introspections the authors arrange the mental phenomena, normal and induced, in serial order as regards reality. They run from weak to strong as follows:—visual ideas, mescaline hallucinations, central after-images, peripheral after-images, true objective reality (perception?). The hallucinations show no evidence of sexual coloring. Other results of the experiments are promised later—on the measurement of the power of perception, memory, weight sense, free and fixed word associations, visual acuity, power of reckoning, power to distinguish and simple motor reactions. Gonnet (4) finds that the alcoholic, after a prolonged abstinence, is subject to a residual delirium. This mental state is to be distinguished from that of the chronic alco-

holic by the absence of a progressive evolution, and by a susceptibility to persuasion and reason. Séglas and Barat (13) find that auditory verbal hallucinations evolve toward degeneration or convalescence through three stages. The term "hallucination" is reserved for those conditions in which the voice is clearly external and is assimilated by the subject to an external audition. Whenever the words seem to come "from within" the stage is "pseudo-hallucination" (following Kandinsky). And when the words are recognized immediately as coming "from without" and as being an expression of his own thought, the stage is "hyperendophasia." The progression or regression comes about through changes in the adjustment of the underlying automatisms, as shown in the stereotypy and neologisms of monologue. Masselon (8, 9) continues his studies of hallucinations in the several clinical forms of paranoid dementia, and in mania and melancholia. In paranoid dementia the tendency is to accept as true all presentations of sense or of image. As degeneration proceeds the feelings of reality and of personal identity fade. One cannot say that the subjective is substituted for the real, but both degenerate together and become, not true, but false hallucinations. Clinical experience has shown that it is difficult to demarcate mania and melancholia. But in general, mania shows kaleidoscopic hallucinations, in accord with the rapidity of thought and imagination. Patients easily distinguish the hallucinations from true perceptions and generally locate them in the head. They approach in character the imagery of reverie. There is a low degree of intensity and of objectivity. The hallucinations of melancholia likewise are weak and lacking in objectivity. They differ however in temporal course, being more nearly fixed and monotonous and are difficult of evocation. The author differs however from Kraepelin in his explanation of the manic-depressive psychoses. Mania and melancholia cannot be at basis exaggerated automatisms and psychic paralysis for the reason that in pure mania and pure melancholia we rarely find hallucinations and the hallucination itself is closely bound up with motor activity. The hallucination has its origin in the automatisms which bind presentations together and to the personality, on the one hand; and on the other, in a difficulty of judgment, thought, and the feelings of transformation and of dominance which prevent a clear recognition of phenomena. The author promises future studies upon the confirmed hallucinations.

Poyer (11) presents a single case of hypnagogic hallucination

in a girl of 14, showing a mystical character in keeping with her instruction in catechism. It is pronounced pathological since it is associated with a state of fatigue and nervous debility. The visions show a tendency to stereotypy.

Courbon (3) shows the importance of kinæsthesia in perception by the interpretations of delirium. Every object at the time of its perception produces both a sensorial and a kinæsthetic impression. In melancholia the kinæsthesia is altered resulting in difficulty of interpretation.

Pick (10), closely following Külpe's experiments on abstraction, finds in two of his patients excellent illustrations of the presence of a sensory quality and its consequent movement effects, when the object as such is not present to consciousness. As against Sigwart's solution of the origin of the impersonal sentence by an examination of the single case, the author, in the second section of his paper, directs attention to the possibility of evidence to be gained from mental pathology. Patients of the paranoid dementia form, and also dementia præcox, usually express their replies to questions in the impersonal form, and thereby indicate causation by mysterious forces or persons unknown. As soon as patients learn the true causes of their ideas, the impersonal form of expression ceases. Also in the normal, it is likely that the impersonal is not a form first learned, then acquiring meaning. But it is an expression analogous to those forms unconsidered by Sigwart (such as "*mich friert*"), which are meant to express a condition of which the cause is unknown, unfamiliar or mysterious. Another case brings the question of musical plagiarism into scientific consideration. The patient "recognized" the work of composers as his own. Upon hearing a Mozart concert, the musical forms were suffused with a "feeling of familiarity." The explanation of this in paranoia is to be found in the disturbance of personality. The music heard is not merely recognized but comes with a *quale* of having been self-produced.

Bahr (1) presents an outline of hallucinations, as taught by Professor Th. Ziehen in Berlin. In a pamphlet of 24 pages he attempts a logical and scientific orientation of the field of study and some of the methodological necessities of procedure. In diagnosis, for example, hallucinations must be demonstrated by distinguishing them from actual perceptions, from dreams and the memory of dreams, from illusions, from delusional explanations and from phantasms.

Zingerle (17) finds that cases of specific and limited lesion of the brain are more productive of scientific data regarding disturbances of the perception of the body; whereas diffuse lesions yield little but suggestions. When the content, as found on clinical examination, is absurd, it avails little to dismiss it as a "disturbance of intelligence, disturbance of orientation," etc. What factor or factors in the total sphere of intelligence are chiefly responsible for the evocation of the absurd content? That all sensory and imaginal elements are not equally significant in the complex is obvious and it is necessary to look deeper. Three cases are then intensively analyzed and it is found that case I shows a disturbance of the static sense; cases II and III show confusion of sides of the body,—all resulting in disturbances of orientation, dimensions of body and unity of spatial experience. The study shows familiarity with the literature of space perception.

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SPECIAL REVIEWS

Die Psychologie des Verbrechens: Eine Kritik. M. KAUFFMANN.
Berlin: Springer, 1912. Pp. 344.

In his *Vorwort* the author of this volume expresses the belief that erroneous conceptions concerning crime and its causes are traceable in a large measure to the fact that it has not been made clear where and by what means we should study crime. He therefore proposes to discuss, in this book, the methods of investigation in this field and to point out the numerous sources of error which beset the student of crime. But before he launches out upon this program he devotes thirty-seven pages of the text to a brief discussion of a number of concepts which are frequently employed in the course of the work. Among these are the following: will, motive, heredity, degeneracy, moral insanity, inborn egoism of the child, etc.

Following this are sixty pages devoted to the discussion and criticism of various sources of information. The prison physician and the psychiatrist, the intelligence test and laboratory experiment, the physiognomy and the lies of criminals, statistics and their sources of error, all these are among the topics that are brought forward in this portion of the text. No one source alone is adequate to afford a knowledge of the individual criminal. The psychiatrist and the prison physician are especially liable to the errors of analogy. Mental tests and laboratory experiments are inadequate for the purpose for which they are intended, because many criminals are the victims of weak wills and love of ease and these are qualities that scientific tests do not themselves reveal. Furthermore, in the reviewer's opinion, the author makes a strong point when he urges that laboratory experiments, intelligence tests and other mental tests applied to delinquents behind the bars are likely to be misleading because there the criminal is not at his best; he is constrained, depressed and uncertain. To compensate for these and other shortcomings of the sources under discussion, the

investigator is driven by necessity to mingling with delinquents in freedom and to observing them in such a situation throughout a considerable period of time. Dr. Kauffmann has consistently pursued this method. In the volume under review he now and then refers to his stenographic notes, that were made when he was thus conducting his work, and quotes from them, *e. g.*, page 92, where he quotes a stereotyped phrase from the conversation of criminals which recurred many hundreds of times in his notes. This phrase was to the effect that the delinquent had not thought about the nature and possible outcome of his criminal acts; that it was "all his own fault," etc.

In the second division of the text the author discusses criminal types. One who has learned to know criminals in all situations, he believes, can, without doing violence to the facts, classify them in general terms as the vagrant type and the energetic type. In connection with his description of the first type he discusses the psychology of work; the mental, physical, and social characteristics of the vagrant and the prostitute; the alcoholic criminal; the criminal by opportunity and the kleptomaniac. Throughout this section the author makes use of the results of statistical and laboratory investigations. He believes that we are not justified on the basis of intelligence tests in drawing the conclusion that the manner of life of the prostitute can be traced either to inborn mental weakness or to acquired weakness of intelligence (*Intelligenzschwäche*, p. 129).

The second type of criminal includes the robber, the thief, the impostor, the gentleman swindler and the juvenile criminal. That such delinquents, on the whole, are inferior in intelligence to the groups in which they belong, Dr. Kauffmann believes, is wholly untenable.

There is more or less transition from one type to another. It not infrequently happens that at the fortieth or fiftieth year of age the vagrant becomes energetic or the thief a vagrant.

Finally in this part the author discusses a certain atypical group among whom are murderers. He believes that murder is usually incidental to the commission of other crimes excepting in those cases in which the act is done by the insane.

In the third portion of the text Dr. Kauffmann treats the causes of crime. There are individual causes such as the social impulse, improvidence, weakness of will, juvenile mentality, neurasthenia, alcoholism. On the other hand there are social

causes, the effects of education and culture. Even punishment may be a cause of crime (p. 250) inasmuch as, if it is improperly chosen and administered, its psychological effect may be, not to awaken ideals of good conduct, nor to renew allegiance to ideals but to embitter the spirit of the one who endures the punishment. The last section is devoted to the discussion of the prevention of crime including the psychology of punishment.

In the final portion the author discusses the penal law, the prevention of crime, and the reform of the administration of punishment. He has little faith in the indeterminate sentence for, he asks, how can any one determine that a convict, who is under the rigid restraint of a prison where he is not permitted even moderate freedom of self-expression, either is or is not fit to enjoy the freedom of normal life? At this point Dr. Kauffmann does not appear to realize what seems to many of us to be the fact that the difficulty in this instance can be obviated by administrative means. Give a prisoner the limited freedom of the outdoor prison farm, and the still greater freedom of the honor squad if possible. In such situations it should be possible to determine exactly whether he has become fit for normal social life or not.

ROBERT H. GAULT

NORTHWESTERN UNIVERSITY

Inheritance as a Factor in Criminality. A study of 1000 cases of young repeated offenders. E. R. SPAULDING AND W. HEALY. *J. of Crim. Law and Criminol.*, 1914, 4, 837-858.

Inheritance as a factor in criminality is considered under two heads: 1, the direct inheritance of criminalistic traits in otherwise normal individuals; 2, the indirect inheritance of criminalistic tendencies through such factors as epilepsy, insanity, feeble-mindedness, etc.

Out of the 1,000 cases which form the basis of this study there were 668 from whom sufficient data concerning environmental and ancestral factors could be obtained to form an adequate basis for conclusions. Of these 668, 245 showed such well recognized foundation for criminalism as mental deficiency and epilepsy. These, therefore, are put in a group by themselves. The remainder consists of 271 cases in which there was no known criminality in the antecedents and 152 cases in which there was known moral defect in the preceding generation. Interest centers especially about the group of 152 offenders with criminalistic ancestors.

When these individuals are examined in detail, the predominating causative factors in the criminality fall into nine classes. For comparison between the two last named groups they are charted separately. Class 1 includes those cases in which there is inheritance of nervous instability. Class 2, those cases in which developmental factors predominate. Class 3, those cases in which environmental factors appear to predominate. Class 4, in which there is a combination of heredity and bad environment. Class 5 includes those who have a bad inheritance and who have suffered in the course of development. Class 6 includes bad environment and unfortunate developmental conditions combined. Class 7 includes those cases in which the difficulty appears to be due to innate disposition not traceable to inheritance such as instability of purpose, suggestibility, temper, etc. Class 8 includes those who exhibit at least three causative factors of importance. Class 9 includes 15 cases which, after assigning the others to the above classes, remains suggestive of criminalistic inheritance.

One of these cases, more strongly than any other, suggests the direct inheritance of criminal characteristics. A close analysis of the family history, however, reveals an irregularity dating back to the early life of the child's mother which strongly suggests the possibility of the inheritance of an hysterical nature which promoted the development of criminal characteristics.

On the whole, it appears that in 35 per cent. of cases there is predominating a transmission of mental or physical defect among these delinquents and that in 9 per cent. such inheritance is partly responsible for the criminality. This makes a total of 44 per cent. in which heredity is undoubtedly responsible for crime. The authors have found no proof of the heredity of criminalistic traits as such. They foresee that by "other studies by the eugenists and advances in medical and psychological knowledge, crime will be found to be indirectly related to heredity in ways most important for society to recognize."

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La conscience morbide. Essai de psychopathologie générale. C. BLONDEL. Paris: Alcan, 1914. Pp. 336.

The seven cases of "morbid consciousness" here presented, are roughly diagnosed, or some characteristics indicated as follows:— (1) Hypochondriacal preoccupation; (2) mental confusion; (3) obsessions and cyclothymic constitution; (4) hypochondriacal, anxious

and disturbed; (5) systematic chronic delirium; (6) melancholic depression; (7) anxiety at menopause.

This group of more or less definitely alienated persons is studied as a group in order to ascertain what constitutes the difference between the normal and the morbid consciousness. The author is convinced that these differences cannot be discovered by the methods of analytical psychology. He claims to work with the methods and to use the criteria of the sociologist.

The essential difference of the morbid consciousness consists in the inability to use the collective images and concepts of the race as designed. The morbid is unable to crowd down into the background of his consciousness the purely individual or purely psychological elements of his experience. He therefore puts a subjective meaning into his concepts. Hence arise all his awkwardnesses and his motor and affective paradoxes.

Again the author characterizes his group as misusing the psychological,—as failing to use it merely as a means of passing from the physiological to the social, as does the normal consciousness. In this he seems simply to say in a more technical way that the morbid consciousness of which he treats is a kind of defective development wherein the higher mental development, which means socialization and character-formation, has not taken place. In other words the result of the study seems to be that the "morbid consciousness" is not socialized and lacks capacity to become socialized.

THOMAS H. HAINES

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L'hystérie et son traitement. P. SOLLIER. Paris: Alcan, 1914.
Pp. x + 298.

This work is a complement of the author's earlier *Genèse et Nature de l'Hystérie*. As the necessary foundation of his "treatment" he must needs explain and amplify his "physiological theory" of hysteria. So while the work is especially designed for the use of the practitioner, it interests the psychologist also, in so far as he discusses the place of the mental factors in the etiology of hysteria.

The author regards his physiological theory as in no sense opposed to, or destroying, Janet's psychological theory. On the contrary he regards it as the necessary correction and completion of the same. He freely admits that the somatic phenomena may be made to appear and disappear by purely moral and psychological

causes. But he maintains that the psychological causes are not the only ones. Hysteric phenomena are produced and disappear by the action of factors which are purely physical. Hysteria is a *functional disease of the cerebral cortex*, and cannot be explained by any merely psychological theory. In fact all the psychological phenomena which are presented as causes are, in reality, effects or manifestations of the cerebral trouble which constitutes hysteria. The essence of hysteria is a kind of sleep of the cerebral centers (*engourdissement cérébral*).

About one fifth of the work is occupied with a discussion of the nature of hysteria. The rest is treatment.

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Diagnostic Symptoms in Nervous Diseases. EDWARD L. HUNT.
Philadelphia: Saunders, 1914. Pp. 229.

This little work on neurological diagnostic methods contains chapters on deformities, paralyses, tremors, atrophic disorders, gaits, ataxia, convulsions, sensation, reflexes, the eye, disturbances of speech, aphasia, and electrical reaction. Although not strictly psychological, the consideration of these topics has interest for the psychologist, especially in view of the frequent necessity of determining mentality from reactions. The variety of abnormalities of action which are found in various nervous diseases are given in this book in a convenient and brief fashion. The chapter on sensation is unfortunately extremely short and devoted entirely to the sensations from the skin and the underlying tissues. Head's views are followed here, although it does not appear that the student will be able, by means of the directions, to carry on the tests with facility or exactness. The chapter on aphasia is one which is written from the older viewpoint and does not take into account those conditions which Marie and others have insisted upon. It is not to be expected in a book of this character that all exceptions should be noted, but on the other hand, it appears to the reviewer pedagogically bad that frequently the statements are made too definite. The discussion of some of the topics is not particularly complete, but this is not to be expected in view of the object of the volume as a help to students. On the whole, however, the book is to be recommended, although it classifies the symptoms in accordance with diseases, and is, therefore, more suited to the needs of the medical practitioner.

S. I. F.

A Clinical Manual of Mental Diseases. FRANCIS X. DERCUM. Philadelphia: Saunders, 1913. Pp. 425.

To the student this work of Dercum will especially appeal. It is a clear exposition of the different forms of mental disease, mostly dealt with in accordance with the classification of Kraepelin. The book deals not only with the various forms of mental diseases, but includes certain of the borderline states with which the general practitioner, more frequently than the psychiatrist, comes in contact. The psychological portions of the book are neither particularly valuable nor exact, the chapter on the "psychologic interpretation of the symptoms" being largely a discussion of Freudian principles. S. I. F.

Pain: Its Origin, Conduction, Perception and Diagnostic Significance. R. J. BEHAN. New York, D. Appleton & Co., 1914. Pp. xxviii + 920.

For the clinician there is perhaps no one symptom which is of such great importance as pain. It is found in a great variety of diseases associated with a number of other symptoms, but frequently it is the only symptom which is apparent and at times it alone leads to a direct diagnosis. It is also the most effective symptom leading to the consultation of the physician by the patient. Because of these facts the consideration of this symptom is of very great importance in clinical medicine, and Behan's book is an attempt to include in a single volume all that the physician needs to know regarding it.

The present work deals with the subject very largely from the clinical aspect (28 chapters) but also partly from the general psychological aspect (7 chapters). For the psychologist who does not hesitate to accept facts from and who may be interested in psychopathology the clinical chapters are, however, of considerable importance. Here will be found descriptions of the localizations, general characteristics, and intensities of pain experienced by patients with different pathological conditions of the heart, circulatory system, glandular systems, nervous system, etc. In this part individual chapters have been written by specialists in the diseases of the nervous system, the eye, the ear, the nose, and the pharynx.

Although the treatment of the general portion is neither complete nor satisfactory from a psychological standpoint, it is perhaps made purposely simple and plain for the general practitioner. It is,

however, to be regretted that the statements are not always in accordance with the best modern physiological and psychological usages. Thus, the use of the term perception is an indication that the author has not felt bound by any considerations of historical and scientific terminology. He says that "there are two states of perception . . . of pain sensations . . . anæsthesia and . . . hyperæsthesia." It would have given the book value had the author concealed his own views and sought for these chapters the help of specialists as he did for the other special chapters which are noted above.

Not only are the symptoms of pain in the different diseases noted but such topics as subjective pain, habit pain, tenderness, reference of pains, etc., are discussed. At the same time due consideration is given to some of the factors which modify pain production, such as the mental and the physical, and there are discussions of the reactions of the respiratory and circulatory systems, and of the trophic and temperature changes which are frequent concomitants of pain. Notwithstanding the author's apparent lack of knowledge of recent psychological facts, there are to be found in this work many clinical facts which the psychologist may profit from and throughout the book there will be found many suggestive discussions.

Not the least valuable portion of the work is the list of about twelve hundred references which take 63 pages of space. These, as may be expected from the general character of the book, are largely clinical. In some cases the references are not as exact as they might be, but the few errors which have been noted do not reduce the value of this part of the work to any great extent.

S. I. F.

Psycho-Analysis. P. JANET. *Proc. XVII Intern. Cong. of Medicine*, 1913, Section 13, 13-64.

Abandoning for the time being, the descriptive and nosological methods of dealing with mental disorders, psychiatrists have within recent years devoted more attention to analysis of their cases and interpretation of the symptoms presented and none of the systems advocated has aroused more discussion than the psychoanalytic method. We have had, on one hand, the protean activities and the infectious enthusiasm of the founder of the school, Freud himself, combined with his scarcely less enthusiastic disciples and followers who differ in minor points, but accept the theory as a whole, Jung,

Stekel, Ferenczi and others, and, on the other hand, the outbursts of scientific and virtuous indignation of which an article by Dercum may be taken as fairly typical.

It is illuminating to turn from such diametrically opposed views to the criticism by a man who cannot be indicted as an opposing fanatic. The work of Janet is well known and bears a striking similarity to that of the Freudian school which it in general antedates.

In his contribution Dr. Janet first of all alludes to the analytical system which he designated as "psychological analysis" and states that on his first acquaintance with "psychoanalysis" he failed to see any startling variations in this new method. He particularly discusses his theory of traumatic souvenirs which he compares to the sexual traumas of Freud. In this connection he quotes several cases to which he had applied his own method with the resulting discovery of etiological facts in the previous psychic life of the individual.

It is noteworthy that in describing the methods he has used in examining these cases for years, he says: "It was necessary to examine even the hidden memories which the patient preserves in his mind without being aware of them himself. One was led to suspect them sometimes by his gestures, by his attitudes, his intonations," etc. This of course will be recognized as identical with the phraseology of the Freudian school. Janet states that after a number of exhaustive investigations he finally admitted the rôle of the traumatic souvenir in certain cases, but only in certain cases. It was at this point in his study that the investigations of Breuer and Freud came into prominence and he was at first inclined to regard them as interesting confirmations of his own studies. He found at first only a few changes in terms: psychoanalysis for psychological analysis, complex for psychological system and catharsis for disassociation of fixed ideas.

An increasing familiarity with and a fuller development of the new method showed that it contained new ideas. These were not, as some thought at first, such things as the insistence upon the prolonged examination of the patient. [This had been emphasized by Janet many times. In fact the examination procedures advocated by psychoanalysts such as placing the patient in a certain position and instructing him to talk on while the physician listened, Janet criticizes because it places the patient on his guard.] Nor was it such things as the association tests whose value he thinks is

problematical. He finds the first striking differences in the psychoanalytic method in the transformation of partial hypotheses into generalizations. Other observers, as Charma, 1851, and Maury, 1861, had supposed that many dreams represented the gratification of desires; Freud said boldly that all dreams do. Psychological analysis grants that the traumatic souvenirs combined with other conditions play a part in determining the symptomatology of certain neuroses; Freud states that it is the *sine qua non* of all neuroses.

But the first real modification of Janet's own studies was the theory of the psychoanalysts that when an unbearable idea was repressed into the subconscious a fear was added to it, with the consequent generalization that every morbid fear is a repressed desire. Janet states that he himself fails to see how a simple effort of the will such as is exerted in repressing a disagreeable or unbearable thought can give rise to phenomena resembling the subconscious phenomena of hysteria, but he can see how repression might play a very interesting rôle where a depression already exists or the field of consciousness is narrowed. He says: "The psychoanalysis does not embarrass itself with these subtleties because it assumes, if I do not deceive myself, a totally different point of view. It adopts two notions, that of transference and that of subconsciousness by repression, and considers them as fundamental notions entering into the definition of every neurosis. These definitions being admitted once for all, the psychoanalysis limits itself to seeking in what manner and by following what symbolic interpretation it is possible to connect a symptom with those fundamental notions of transference and repression. One is astonished to find the psychoanalysis interpreting facts as simple symbols which one transforms at will, as though it is convinced before all study that there is behind these facts a transference and a repression without which the neurosis would be impossible."

Many examples of this mode of interpretation can be found in the works of this school. It is well known, for example, that certain neuropaths, the hysterics and the psychasthenics, manifest a very peculiar and sometimes bizarre attachment for the physician who has succeeded in gaining some influence over their minds. This attachment manifests itself in various ways and seems to depend on very diverse sorts of psychological motives in which according to the case suggestions, abulias, the incapacity to form conclusions, the need to be understood, the need to be directed and above all the need to be excited, so important with those who are depressed,

take part. The psychoanalysis explains the facts much more simply by the transference of a sentiment of love which the subject had felt for another person and which he now transfers to the physician. Suggestion and hypnotism are then very simple phenomena which consist in the transference of the sexual tendencies of the complex "child-parent" to the complex "subject-hypnotizer." It is evident that if one admits once for all that every exhibition of docility whatever may be a symbol of erotic sentiments, that in each neurosis there is an unconscious transference of something, it is possible to explain the thing in this manner.

When the psychoanalyst speaks of sexual troubles he does not use the word in any physical or physiological sense, but refers to sexual adventures attached to which are painful memories. This, of course, has long been recognized as contributing to hysteria and other borderland states, but here again comes a bold generalization: the sexual troubles are not one of the causes of the malady, but the essential and sole cause! Janet seems disposed to agree with other observers, such as Loewenfeld and Ladame, that sexual disturbances occur in neuropaths in about three fourths of the cases, but not in all cases, as Freud states, and he adds that perhaps the Viennese atmosphere is somewhat more conducive to sexuality than that of Paris.

Janet also protests against the misuse of words by the new school as exemplified by the application of the term "love" to all varieties of emotion and he doubts that some of these emotions are at all allied to the sexual in spite of the symbolic construction which may be placed upon them. Janet designates some of these constructions as arbitrary and says they only show how the thing might be explained if the sexual origin of all neuroses is proved, which is by no means the case.

In conclusion Janet sums up the situation in a sentence: "I see clearly that it is necessary to have *faith* in order to understand well the symbolic interpretations of psychoanalysis." He also likens the indefinite application of the term "sexuality" to the infinite utilization of the term "suggestion" thirty years ago. He admits that the Freudians have cured millions of sick, but so have the Christian Scientists and the followers of other cults, but how about the millions who remain ill? And how about the persons who practice the panacea of the psychoanalytic, and are or become neuropathic?

His chief objections then to the psychoanalytic school are its

unproved generalizations, its mystic or ambiguous terms, its too loose application of the term sexuality and its often impracticable therapy. The contributions to psychological analysis which he acknowledges to be of value are the studies of mental evolution in childhood and of diverse forms of sexual sentiment.

J. E. LIND

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The Psychoneuroses and Their Treatment by Psychotherapy. J. DEJERINE AND E. GAUCKLER. (Trans. by S. E. JELLIFFE.) Philadelphia: Lippincott, 1913. Pp. xiii + 395.

"With the establishment of firmer foundations, it became worth while to delve into psychic problems, with some hope of sound deductions and practical results, and within the past few generations we have seen scientific medicine take its place in this domain heretofore left to the thousand and one uninformed and quasi-scientific cults which have for centuries constituted parasitic foci in every community" (p. iii). This statement, made in the translator's preface, expresses the mission of the book before us. A glance at its table of contents shows the systematic way in which the field of unusual or abnormal psychoneuroses and their treatment is covered and a careful reading of the text bears out this indication. The scheme of presentation is embodied in the last three paragraphs of the Introduction (p. xiii): "The first (part), which is *analytical*, will be devoted to the study of the functional manifestations, that is to the study of all the symptoms which are observed in the course of the psychoneuroses, whose exact nature we wish to ascertain. In the second, the *synthetic*, we shall endeavor to make plain the general mechanism of the foundation of the psychoneuroses, as well as their variations and nature. In the third, which is *therapeutic*, will be set forth the psychotherapeutic proceedings and helps which we feel are the only measures which should be used in the treatment of the psychoneuroses."

In the first part a chapter is devoted to each one of the following groups of functional disturbances: digestive, urinary, genital, respiratory, cardiovascular, cutaneous, neuro-muscular, an- and hyperæsthesias, sensory, nervous, and psychical disorders. The eleventh and twelfth chapters deal with the relation of functional manifestations to general organic states and with a diagnosis of the symptoms involved.

The second part is called a "synthetic study of the psycho-

neuroses and their functional manifestations." While the first part gave a detailed description of each separate symptom manifested in a psychoneurosis, the second part aims to consider the psychoneurosis as a total state. After a discussion of the rôle of the emotions in diseases of the nervous system, neurasthenia and hysteria are described at length in the course of several chapters. Neurasthenia involves an "emphatically constitutional predisposition," in which an emotional tendency, a "taking things to heart," emotional fatigue, disturbances due to auto- and heterosuggestion, and "symptoms of all kinds which are the immediate or remote results of functional troubles previously created," are the characteristic factors. Hysteria, on the other hand, is an "emotional discharge," with little suggestive influence in the matter of the initiation of symptoms, small consideration or knowledge of the symptoms involved, and unstability of mental constitution. In both cases emotion is directly or indirectly responsible for the psychoneuroses, but the outcome in terms of the symptoms is different. The essential features of the psychoneuroses are (p. 284): "1. A mental and moral foundation which is either constitutional or acquired, and due to some emotional stimulus. 2. Neuropathic symptoms properly so called, or functional manifestations, grafted on to the psychic stock which has hitherto been established. 3. Additional phenomena, expressing the persistence of functional manifestations in the organs."

The third part concerns itself more directly with the general problems of psychotherapy: the tendency to counteract the pathogenic factors rather than the outward manifestations, the individual and social influence of hypnotic treatment, the general relations of physician and patient, specific treatment of functional manifestations, and the insistence on strict psychotherapy without recourse to fictitious medicaments. The main thesis of the book seems to be the insistence on the influence of the emotions as a provocative factor in the initiation of the psychoneuroses.

A particular virtue of the work is the complete description it gives of pathological cases which are cited as illustrations under each section. The style is virile, in fact trenchant in places, and the general topic seems to be comprehensively treated. If any negative criticism can be formulated, it would find expression in the statement that very often psychological concepts are rather carelessly or ambiguously handled. An instance of this, picked at random from a number of possible cases which have been noted,

is found in the remark (p. 223): "After having seen what are the immediate psychological actions, we would like to continue the discussion by inquiring into the later psychological actions exercised by the emotions." That the translation appears to be well done is attested by the fact that the work does not read like a translation.

CHRISTIAN A. RUCKMICH

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BOOKS RECEIVED

- HARTSHORNE, H. *Worship in the Sunday School. A Study in the Theory and Practice of Worship.* New York: Teachers College, 1913. Pp. 210.
- DOWD, J. *The Negro Races. A Sociological Study.* New York: Neale Publ. Co., 1914. Pp. 310.
- RYERSON, J. G. *A Mind Remedy.* Rahway, N. J.: Quinn & Boden Co., 1914. Pp. xii + 82.
- Physical Bases of Crime. A Symposium.* Easton, Pa.: Amer. Acad. of Med. Press, 1914. Pp. 188. \$4.
- BRANDFORD, V. *Interpretations and Forecasts.* New York: M. Kennerley, 1914. Pp. 411.
- MICHEL, R. *Sexual Ethics: A Study of Borderline Questions.* New York: Scribners, 1914. Pp. xv + 296.
- WEST, M. *Education and Psychology.* New York: Longmans, Green & Co., 1914. Pp. viii + 341.
- BROWN, W. *Habit Interference in Sorting Cards.* (No. 4 of University of California Publications in Psychology.) Berkeley: Univ. of California Press, 1914.
- DOUTCHEF-DEZEUSE, M. *L'image et les réflexes conditionnels dans les travaux de Pavlov.* (Pref. de M. G. Bohn.) Paris: Alcan, 1914. Pp. xvi + 176. 2 fr. 50.
- DEALEY, J. Q. *The Family.* Boston: Houghton Mifflin Co. Pp. v + 137. \$0.75.
- BRAUN, O. *Schelling, Briefe über Dogmatismus und Kritizismus.* Leipzig: F. Meiner, 1914. Mk. 2.50.
- SCHAFFGANZ, H. *Nietzsches Gefühlslehre.* Leipzig: F. Meiner, 1914. Mk. 3.50.
- HÖFLER, A. *Bolzano, Wissenschaftslehre.* Leipzig: F. Meiner, 1914. Mk. 12.

NOTES AND NEWS

DR. WILLIAM H. HICKSON, who has been associated with Dr. H. H. Goddard at Vineland, N. J., has been called to take charge of a research laboratory connected with the Court of Domestic Relations of Chicago.

THE FIRST number of a new magazine, *Zeitschrift für Individual-psychologie*, appeared in April. It is edited by Dr. Alfred Adler and Dr. Carl Furtmüller, of Vienna, and is published by Ernst Reinhardt, Munich, Germany. It will be devoted to studies and discussions in individual psychology, including psychotherapy and pedagogy.

WE HAVE received the first number of the *Zentralblatt für Psychologie und psychologische Pädagogik (mit Einschluss der Heilpädagogik)* which also appeared in April. The *Zentralblatt* is edited by Dr. W. Peters, of Würzburg, with the coöperation of an international board, and is published by C. Kabitsch, Würzburg, Germany. It will contain only summaries, not critical reviews, of articles and books dealing with psychology, pedagogy, physiology, psychiatry, mental hygiene, etc., which are of interest to psychologists.

THE RESPONSIBILITY for the continuation of the work of the Chicago Psychopathic Institute has been assumed by the authorities of Cook County, and the work will henceforth be carried on officially in connection with the Juvenile Court of that county. Dr. William Healy will remain in charge of the work of the Institute, and Augusta F. Bronner, formerly of Columbia University, continues as assistant director.

AT THE University of Washington an entire building has been secured for the use of the Psychological Clinic which is under the direction of Professor Stevenson Smith. Madge W. Wilkinson has been appointed assistant in clinical psychology.

DR. H. L. HOLLINGWORTH, instructor in psychology at Barnard College, has been advanced to the grade of assistant professor.

ANNOUNCEMENT is made of a new journal, *Archiv für Frauenkunde und Eugenik*, dealing with the medical, biological, physiological, pathological, psychological, etc., conditions of women, under the editorship of Dr. M. Hirst, of Berlin. The *Archiv* is published by C. Kabitzsch, Würzburg, at M. 16 a volume.

